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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/823,793

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Alfred Z. Abuhamad

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EXAMINER

JAWORSKI, FRANCIS J

ART UNIT

PAPER NUMBER

3768

NOTIFICATION DATE

DELIVERY MODE

05/04/2007

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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## Office Action Summary

Application No.

10/823,793

Applicant(s)

ABUHAMAD, ALFRED Z.

Examiner

Jaworski Francis J.

Art Unit

3768

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2007.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-17 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 7 – 8, and 14 –17 are again rejected under 35 U.S.C. 103(a) as being unpatentable over Clark (US6174285, of record in applicant's specification), further in view of Arling (US5872571).

Clark as earlier noted is directed to a method and system architecture and a view display procedure set stored in operating memory 36 using code executable under control of CPU 34 which acts to acquire ultrasound 3D image data for a heart, and utilizes a reference positioning visualized as a 2-D scan plane by the user in order to define inter alia a further two or more pre-set views once reference positioning is achieved, see col. 3 line 21 – 5 line 9. Clark does not however 'utilize data defining a reference plane...to define at least one other plane'. That is, as noted in point 3) above, the full data of a view need not be used in order to provide a reference to the system nor does the pre-set 2-D reference plane view of step 50 necessarily provide data for the further pre-set views as opposed to merely assuring aim before triggering a free-running, non-contingent view rendering process.

However it would have been obvious in view of Arling to provide the further pre-selected views of Clark by the aforementioned procedure increment of 'utilizing.'

Specifically, in the latter the reference plane serves to determine the angular offsets of the additional view planes, see col. 3 lines 35 – 58, and for purposes similar to Clark of aligning a transducer in relation to anatomical features, see col. 4 lines 21 – 28, and for real-time simultaneous viewings, see col. 4 lines 9 – 20.

Note in this regard that the rejection argument in effect represents two variations of an argument in the sense that the combined teachings would suggest that a further view plane having a fixed geometry to the reference plane be simultaneously displayed as in Arling, or that a further anatomic pre-set view be displayed using the reference positioning plane as a basis for generating a further view. In this regard and in deference to applicants arguments, the generating may pertain to an original plane or to a generation of a further rendered view with respect to generation of an original rendered view based upon relationship of direction to that of the original rendering(claims 1, 7 – 8, 16 - 17).

Such further view planes derived based upon the positioning location in Clark are characterizable as standardized since they are reproducible, see also discussion of point 2) supra. (Claims 14 – 15).

Claims 2, 11 are again rejected under 35 U.S.C. 103(a) as being unpatentable over Clark in view of Arling as applied to claim 1 above, and further in view of Kamiyama (US6290648). Whereas the former are silent as to fetal heart observation since Clark is non-specific in this regard with respect to Figs. 1 – 2 and attendant discussion, it would have been obvious in view of Kamiyama col. 1 lines 22 – 30 to examine fetal hearts as analogous to adult hearts where a multiple view format is being

used, see col. 2 lines 1 – 18 of the latter. Note that whereas Kamiyama is otherwise user – driven wrt this col. 2 passage, under an alternative interpretation Kamiyama is also compatible with a format which automatically uses the reference image to define a further image without registry orienting of multiple view planes by a user observing a mark. That is, col. 2 lines 18 – 31 considered together with col. 8 lines 3 – 40 suggests that such endeavor as orienting a further view with respect to a reference view may also include position matching (where the further view is a view after an artifact movement) or tumor monitoring (where the further view is of the same lesion at a later date), there being nothing in applicant's base claim which limits the other plane defined by the reference plane to be not-the-same-view-direction. (claim 2).

Otherwise Kamiyama stores lesion pathologies for comparison and identification of abnormal structures. (Claim 110)

Otherwise Clark's heart images include the left and right-sided outflow tracts in Figs. 2a and 2b as well as the aortic arch in Fig. 1a. (claims 3 – 4).

Claims 5 – 6, 9 - 10 are again rejected under 35 U.S.C. 103(a) as being unpatentable over Clark in view of Arling as applied to claim 1 above, and further in view of Detmer(US6443896) and Coleman et al (US6306089). Whereas the former are silent as to fetal imaging, it would have been obvious in view of Detmer col. 1 lines 20 – 24 and 44, col. 3 line 64 – col. 4 line 65 to use multi-planar imaging for general obstetric as opposed to cardiology use, whereupon alternative to cardiac calculations as per Detmer col. 5 top one would use obstetric calculations as per Coleman et al col. 5 top in accordance with this usage.(Claims 5 – 6).

In either case the calculated result is characterizable as a 'medical evaluation'.  
(Claim 9).

Otherwise the image recognition software described in Clark col. 5 top is  
applicable. (claim 10).

Claims 12-13 are again rejected under 35 U.S.C. 103(a) as being unpatentable  
over Clark in view of Arling as applied to claim 1 above, and further in view of Avila et al  
(US6413219) considered in light of applicant's prior art admissions in para [0008, upper  
half] since whereas the former although real-time in operation are silent as to orthogonal  
cut planes for the presented views, it would have been obvious in view of Avila et al to  
provide same for full multiplanar characterization, Avila et al being likenable to the  
technology discussed in applicant's specification where the orthogonal views are  
referenced to the human body axis.

#### Response to Arguments

Applicants amended claims only require that a further view plane either be  
originally generated or generated for rendering based upon data (which may be image  
data or control data) which sets the relationship for defining the further view plane in  
relation to the plane which has been used as a reference under any of these  
alternatives.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time  
policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE  
MONTHS** from the mailing date of this action. In the event a first reply is filed within


Art Unit: 3768

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to Jaworski Francis J. at telephone number 571-272-4738.

FJJ:fjj

04-23-07

  
Francis J. Jaworski  
Primary Examiner